

**Notice of Allowability**

Application No.

09/931,485

Examiner

Lisa Hashem

Applicant(s)

TSUTSUMI, SHINICHI

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3-23-2005.
2. ☒ The allowed claim(s) is/are 2 and 4-9.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

**EXAMINER'S AMENDMENT**

1. Claims 2 and 4-9 are pending in this application.
2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
3. Authorization for this examiner's amendment was given in a telephone interview with Shawn B. Cage (Reg. No 51,522) on September 7, 2005.
4. The application has been amended as follows:

Claim 4, line 7 recites:

**"BPSK"**

was changed to

**--binary phase shift keying--**

5. The application has been amended as follows:

Claim 5, line 2 recites:

**"IF"**

was changed to

**--intermediate frequency--**

6. The application has been amended as follows:

Claim 8, line 2 recites:

**"IF"**

was changed to

**--intermediate frequency--**

7. The application has been amended as follows:

Claim 9, line 12 recites:

**“intermediate stage”**

was changed to

**--intermediate frequency stage--**

8. The application has been amended as follows:

Claim 9, line 13 recites:

**“IF”**

was changed to

**--intermediate frequency--**

***Allowable Subject Matter***

9. The following is an examiner's statement of reasons for allowance: upon close review of the claims, the prior art, and applicant's remarks it appears that the allowance of claims 2 and 4-9 are appropriate.

Referring to the claimed invention, U.S. Patent No. 6,097,974 by Camp discloses a portable terminal apparatus comprising (column 5, line 51 – column 6, line 43): a first receiving system for receiving a quadrature modulated signal and converting the quadrature modulated signal into an intermediate-frequency signal for output (Figure 7, 611), wherein a radiotelephone receiver handles a quadrature modulated signal (see page 2, lines 15-17 of the instant application '09/931,485'); a second receiving system comprising at least one system for receiving a binary phase shift key (BPSK) modulated signal and converting the BPSK modulated

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signal into an intermediate-frequency signal for output (Figure 7, 612), wherein a second receiving system or global positioning system (GPS) receiver handles a BPSK modulated signal (see page 2, lines 17-18 of the instant application '09/931,485'); an intermediate frequency (IF) stage for processing both the intermediate-frequency signal of said first receiving system and the intermediate-frequency signal of said second receiving system (Figure 7, 646); and a signal processing system for processing the signal of said first receiving system that has been passed through said IF stage and the signal of said second receiving system that has been passed through said IF stage (Figure 7: 650, 652), wherein said IF stage has at least one of a quadrature demodulator for subjecting the intermediate-frequency signals that have been passed through to quadrature demodulation for output (Figure 7: 646, 650; column 3: lines 28-29, lines 49-52, and lines 65-67; column 4, lines 8-10).

U.S. Patent No. 6,094,564 by Tomiya discloses a portable terminal apparatus comprising (Figure 2): a first (Figure 2, 60) and a second receiving system (Figure 2, 62) for receiving a quadrature modulated signal and converting the quadrature modulated signal into an intermediate-frequency signal for output (column 5, lines 44-50; column 10, lines 1-8), wherein a radiotelephone receiver handles a quadrature modulated signal (see page 2, lines 15-17 of the instant application '09/931,485'); and an intermediate frequency (IF) stage or receiving section for processing both the intermediate-frequency signal of said first receiving system and the intermediate-frequency signal of said second receiving system (column 5, lines 51-59); and wherein said IF stage has at least one of a variable gain amplifier (Figure 2, 44) for amplifying the intermediate-frequency signal of said first receiving system and the intermediate-frequency signal of said second receiving system and a quadrature demodulator (Figure 2, 47) for

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subjecting the intermediate-frequency signals that have been passed through the variable gain amplifier to quadrature demodulation for output (column 7, lines 29-37; column 9, lines 13-67).

None of the prior art disclose a signal processing system including a phase shifter that generates an I signal and a Q signal by demodulating the intermediate-frequency signal output from a second receiving system so that said I signal and Q signal coincide with each other in phase, as shown in Figure 1 and as claimed in Claims 2 and 9.

10. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

11. Any response to this action should be mailed to:

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Or faxed to:**

(571) 273-8300 (for formal communications intended for entry)

**Or call:**

(571) 272-2600 (for customer service assistance)

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa Hashem whose telephone number is (571) 272-7542. The examiner can normally be reached on M-F 8:30-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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September 7, 2005

  
FAN TSANG  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600